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codes will be used and provided so the consumer can program an existing remote control to, at a minimum, change channels and turn on and off the converter box and the consumer's existing analog television receiver.

## 19. Audio Outputs

The RF output must be modulated with associated audio program information; the RCA audio connectors must provide stereo left/right, when broadcast.

#### 20. Energy Standards

The equipment shall use no more than two watts of electricity in the "Sleep" state. Sleep state power shall be measured in accordance with industry standard CEA-2013-A. Eligible equipment shall provide the capability to automatically switch from the On state to the Sleep state after a period of time without user input. This capability shall be enabled at the factory as the default setting for the device. The default period of inactivity before the equipment automatically switches to the Sleep state shall be four hours. Eligible equipment may allow the current program to complete before switching to the Sleep state. The default energy related settings shall not be altered during the initial user set-up process and shall persist unless the user chooses at a later date to

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manually: (a) disable the "automatic switching to Sleep state" capability, or (b) adjust the default time period from 4 hours to some other value.

## 21. Owner's manual

An owner's manual shall include information regarding the remote control codes used to permit the consumer to program a universal remote control. The owner's manual will include information regarding the availability of the main audio channel and other associated audio channels on the RF and left/right audio outputs.

## 22. LED Indicator

The equipment shall contain an LED to indicate when the unit is turned on.

#### 23. RF Cable

The equipment will include at least one RF cable to connect the unit with its associated analog television receiver.

## 24. Signal Quality Indicator

The equipment will display on the television receiver signal quality indications such as signal strength per ATSC A/74, Section 4.7.

## TECHNICAL APPENDIX 2

TECHNICAL APPENDIX 2—NTIA Coupon-Eligible Converter Box (CECB): Permitted and Disqualifying Features

Feature	Permitted Feature	Disqualifying Feature
General Requirements		Any device or capability which provides for more than simply converting a digital over-the-air television signal (ATSC) for display on an analog television receiver (NTSC), including, but not limited to: Integrated video display; Video or Audio recording or playback capability such as VCR, DVD, HDDVD, Blue Ray, etc.
Antenna Inputs	Smart Antenna interface connector (CEA 909 Smart Antenna Control Interface standard).  The manufacturer may supply a 300 ohm connector or a matching transformer to connect 300 ohm ribbon leads to the required RF antenna input.	
Antenna Pass-Through	Equipment may pass through a NTSC analog signal from the antenna to the TV receiver.  By-pass switch to permit NTSC pass-through.	
Bundling Antenna and Converter Box.	Equipment and Smart Antenna may be sold together at promotional prices.	Equipment cannot be sold conditioned on the purchase of a Smart Antenna or other equipment.
Outputs (General)	S-Video	Digital Video Interface (DVI); Component video (YPbPr); High-Definition Multimedia Interface (HDMI); Computer video (VGA); USB IEEE-1394 (iLink or Firewire) Ethernet (IEEE-802.3) Wireless (IEEE0802.11)

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# TECHNICAL APPENDIX 2—NTIA Coupon-Eligible Converter Box (CECB): Permitted and Disqualifying Features—Continued

Feature	Permitted Feature	Disqualifying Feature
Outputs (Audio)	Equipment may process associated audio services described in Section 6.6 of A/54.  RF output may provide monaural audio for the selected audio channel.  RF output may provide BTSC stereo for the selected audio channels.	
Automatic Software Repair/Upgrade. Program Information	Equipment is able to receive and process software pursuant to ATSC A-97.  Equipment may contain software and hardware modifications necessary to display other program information as determined by the manufacturer.	
Remote Control	Manufacturers may include a programmable universal remote control to operate the equipment and other existing video and audio equipment.  Remote control may have dedicated keys to provide direct access to closed captioning and descriptive video functions.	
Other Features	Equipment may be operated on battery power as well as external AC/DC power. Manufacturer may supply additional cables, such as a cable with 3 female RCA connectors for composite video (yellow connector) and stereo left and right audio (white and red connectors).	
Energy Standards	Equipment may display on the television receiver additional signal quality information as determined by the manufacturer. Equipment may comply with standards established by the EPA Energy Star program or state regulatory authorities.	